

### **Listing of the Claims**

This listing of claims will replace all prior versions, and listings, of claims in this reissue application with markings showing changes made relative to the claims as issued in U.S. Patent Number 6,326,362 B1. An appendix is included at page 17 of this paper indicating changes made to the claims by this amendment for the convenience of the Examiner and pursuant to 37 CFR 1.173 (c).

1. (Thrice Amended) A graphic user interface method for defining a database query [definition and] output representation operation [parameters] parameter [of a database], the method comprising [the steps of]:

graphically representing [a query definition or] an output representation operation of a database operation on a [the] data set, said graphic representation having a graded representation portion;

receiving [from the user] a signal representing a user manipulation of [the] a grade of the graded representation portion; [and]

translating the manipulation of the graded representation into a database [query definition or output representation] operation parameter [for the database]; and

receiving [the] an output database set from the database in accordance with the database [query definition of output representation] operation parameter, an arrangement of members of the output database set being responsive to manipulation of said graded representation portion.

2. (Original) The method according to claim 1, wherein said data set comprises free form text.

3. (Twice Amended) The method according to claim 1, [wherein said] further comprising receiving a database query comprising [database operation parameters comprise] Boolean search parameters.

4. (Original) The method according to claim 1, wherein said graphic representation comprises a bulls'-eye.

5. (Original) The method according to claim 1, wherein said graphic representation comprises a pyramid.

6. (Original) The method according to claim 1, wherein said manipulation comprises a gesture.

7. (Original) The method according to claim 1, wherein said manipulation comprises selecting a start position within the graded representation portion and subsequently displacing a graphic cursor with respect thereto.

8. (Twice Amended) The method according to claim 1, further comprising receiving a [wherein said] database operation [parameters comprise] parameter comprising at least one numerical operator defining an expansiveness of a set inclusion property.

9. (Original) The method according to claim 1, wherein said database operation parameter comprises a statistical parameter.

10. (Original) The method according to claim 1, wherein said database operation parameter modifies a presentation of results of a Boolean search expression.

11. (Twice Amended) The method according to claim 1, further comprising receiving a [wherein said] database operation parameter through manipulation of a graded representation portion, which modifies a set inclusion property of a Boolean search expression.

12. (Twice Amended) The method according to claim 1, further comprising receiving a [wherein said] database operation parameter through manipulation of a graded representation portion, which modifies [comprises] a non-Boolean search parameter of the database.

13. (Amended) The method according to claim 1, wherein the [user] manipulation comprises a gesture for affecting a relative size, shape or position of the graded representation portion.

14. (Original) The method according to claim 1, wherein the database operation parameter comprises an output ranking.

15. (Twice Amended) The method according to claim 1, further comprising [the steps of] receiving a further database operation parameter [from the user] through user manipulation of a graded representation portion, the database operation parameter and further database operation parameter being selected from one or more of the group consisting of a set inclusion property and a set ranking property, which together determine and arrange the output set.

16. (Twice Amended) The method according to claim 1, wherein a set inclusion criterion of the output database set [resulting from evaluation of the database operation parameter] is based on an intrinsic characteristic of [the] elements of the database, and a ranking of members included [elements] in [an] the output set is based on a characteristic extrinsic to the [elements] members of the output database set [database].

17. (Twice Amended) The method according to claim 1, further comprising [the steps of]:

receiving [evaluating the] a database operation parameter to [produce an] define the output database set;

representing the output database set as a second graphic representation having a graded representation portion;

receiving [from the user] a user manipulation of [a graded of] the graded representation portion of the second graphic representation; and

translating the manipulation of the graded representation of the second graphic representation into a second database operation parameter for operation on the output database set.

18. (Amended) The method according to claim 1, wherein said graphically representing [step] is adaptive to [a style of the user] activity regarding the graphic representation.

19. (Amended) The method according to claim 1, further comprising [the step of] altering the functioning of the graphic user interface based on preferences [of the user, the preference being] derived from monitoring [the] past activities [of the user].

20. (Amended) The method according to claim 1, further comprising [the step of] transmitting the database operation parameter through a computer network to a remote database server.

21. (Amended) The method according to claim 1, wherein:  
said graded representation portion comprises at least one graphic control having a [liner] linear depiction; and  
said manipulation comprises a movement of a graphic element along the [liner] linear depiction.

22. (Twice Amended) The method according to claim 1, wherein:  
said graded representation portion comprises a plurality of graphic controls, arranged in an array and [each] individual ones of the plurality of graphic controls having a [liner] linear depiction; and  
said manipulation comprises a movement of a graphic element along the [liner] linear depictions.

23. (Twice Amended) The method according to claim 1, wherein the database [contains] comprises a set of referential data records, [each] individual ones of the referential data records having an identifier, and content information, [relating to the content of the database and identifiers of a subset of] at least a portion of said set of referential data records being referenced by other data records [the referential data records], further comprising [the steps of] sorting identifiers of the [subset] data records included as members of the output database set based on a primary search criterion and an analysis of a relation of references of the database.

24. (Amended) A non-transitory computer readable medium having therein computer instructions for controlling a computer to perform the method of claim 1.

25. (Thrice Amended) A method comprising:  
providing data for display of at least one graded representation portion representing application of an output criterion to a data set;

receiving a signal representing at least one of a graphic manipulation of the graded representation portion or a query defined based on a graphic manipulation of the graded representation;

determining a query defined based on a graphic manipulation of the graded representation in response to receiving a signal representing the graphic manipulation of the graded representation;

transmitting electronic data representing a query defined based on a graphic manipulation of the graded representation portion to an automated query response system; and

receiving a query response set from the automated query response system, the query response set comprising a plurality of items in dependence on the query and having an arrangement varying in dependence on a second output criterion derived from the graphic manipulation of the at least one graded representation portion of the output criterion.

26. (Twice Amended) The method according to claim 25, wherein the graded representation portion comprises a scale, wherein a desired quantitative value is selected based on a manipulation of the scale.

27. (Previously Presented) The method according to claim 25, wherein the automated query response system comprises a search engine.

28. (Previously Presented) The method according to claim 25, wherein the electronic data is transmitted over the Internet.

29. (Previously Presented) The method according to claim 25, wherein the output criterion comprises a sort criterion.

30. (Previously Presented) The method according to claim 25, wherein the output criterion comprises a ranking criterion.

31. (Twice Amended) The method according to claim 25, wherein the graded representation portion comprises the output criterion and a quantitative modifier for a semantic query.

32. (Amended) The method according to claim 25, wherein the automated query response system operates on data records comprising records having links to other data records or records which are linked to by other data records, a ranking of data records represented in the query response set being dependent on the links to or from other data records.

33. (Thrice Amended) A non-transitory computer readable physical medium having stored therein computer instructions for controlling a computer to perform the method of claim 25.

Claims 34-39. (Cancelled)

40. (Thrice Amended) A graphic user interface method comprising:  
providing signals for graphically representing a predefined icon of the graphic user interface for defining an output representation operation on the database, said icon having a graded representation portion;

receiving a signal representing a user manipulation of the grade of the graded representation portion; and

receiving an output database set in accordance with a database output representation operation parameter derived from the user manipulation of the graded representation portion, wherein

the output database set is received in accordance with the database output representation operation parameter, and

an arrangement of members of the output database set is dependent on said database output representation operation parameter.

41. (Twice Amended) The graphic user interface method according to claim 40, further comprising:

providing signals for display a plurality of predefined icons representing respective output representation operations on the database;

receiving signals representing user manipulation of grades of a plurality of graded representation portions;

translating the manipulation of the grades into a plurality of database output representation operation parameters for the database;

receiving the output database set in accordance with the plurality of database output representation operation parameters, and

wherein an arrangement of members of the output database set is dependent on said plurality of database output representation operation parameters.

42. (Thrice Amended) A graphic user interface method comprising:  
providing data for display of a graphic representation of an output from the database, said graphic representation having at least a graded representation portion;

receiving a signal representing a manipulation of a grade of the graded representation portion of the graphic representation of the output from the database;

translating the manipulation of the grade into a database output representation operation parameter for the database;

determining an output database set in accordance with the database output representation operation parameter; and

providing data for display representing arranged members of the output database set in dependence on the database output representation operation parameter.

43. (Twice Amended) A method comprising:  
receiving through a pointing device of a graphic user interface at least one signal relating to a manipulation of a grade of at least one graded representation portion of a desired output arrangement, the at least one graded representation portion comprising a representation of an output criterion as applied to a data set;

transmitting electronic data representing at least one of a defined query based at least in part on the at least one signal or the manipulation of the grade of the at least one graded representation portion to an automated query response system; and

receiving a response from the automated query response system, the response comprising data representing a plurality of items arranged in dependence on the manipulation of the grade of the at least one graded representation portion.

44. (Twice Amended) The method according to claim 43, wherein the graded representation portion comprises a plurality of multivalued graphic representations, individual ones of the plurality of multivalued graphic representations configured to be separately manipulated through the pointing device.

45. (Twice Amended) A method comprising:  
receiving at a server a signal relating to a user manipulation of a grade value represented by at least one graded representation portion having at least three states, the at least one graded representation portion comprising a representation of an output criterion as applied to a data set;  
defining a query based at least in part on the signal;  
transmitting electronic data representing at least one of the query or the user manipulation of the grade value to an automated query response system; and  
receiving a response from the automated query response system, the response comprising data representing a plurality of items responsive to the query or the user manipulation of the grade value.

46. (Twice Amended) The method according to claim 45, wherein the signal received through the graphic user interface relates to a separate manipulation of a grade value represented by a plurality of graded representation portions.

47. (Twice Amended) The method according to claim 25, wherein the at least one graded representation portion comprises a plurality of quantitative graphic representations, individual ones of the plurality of quantitative graphic representations configured to be separately graphically manipulated.

48. (Previously Presented) The method according to claim 40 further comprising translating the manipulation of the graded representation portion into the database output representation operation parameter for the database.

49. (Amended) A non-transitory computer readable medium having therein computer instructions configured to control a computing device to perform operations comprising:



providing data for display of a graphic representation of an output from a database, said graphic representation having at least a graded representation portion;

receiving a signal representing a manipulation of a grade of the graded representation portion of the graphic representation of the output from the database;

translating the manipulation of the grade into a database output representation operation parameter for the database;

determining an output database set in accordance with the database output representation operation parameter; and

providing data for display representing arranged members of the output database set in dependence on the database output representation operation parameter.

50. (Previously Presented) A non-transitory computer readable medium having therein computer instructions configured to control a computing device to perform operations comprising:

receiving through a pointing device of a graphic user interface at least one signal relating to a manipulation of a grade of at least one graded representation portion of a desired output arrangement, the at least one graded representation portion comprising a representation of an output criterion as applied to a data set;

transmitting electronic data representing at least one of a defined query based at least in part on the at least one signal or the manipulation of the grade of the at least one graded representation portion to an automated query response system; and

receiving a response from the automated query response system, the response comprising data representing a plurality of items in dependence on the manipulation of the grade of the at least one graded representation portion.

51. (Amended) A non-transitory computer readable medium having therein computer instructions configured to control a computing device to perform operations comprising:

receiving a signal relating to a user manipulation of a grade value represented by at least one graded representation portion having at least three states, the at least one graded representation portion comprising a representation of an output criterion as applied to a data set;

defining a query based at least in part on the signal;  
transmitting electronic data representing at least one of the query or the user manipulation  
of the grade value to an automated query response system; and  
receiving a response from the automated query response system, the response comprising  
data representing a plurality of items responsive to the query or the user manipulation of the  
grade value.

52. (Previously Presented) An apparatus comprising:  
a server configured to provide an applet executing in conjunction with a graphic user  
interface, the applet configured to receive through a pointing device of the graphic user interface  
a manipulation of a grade of at least one graded representation portion of a desired output  
arrangement, the at least one graded representation portion comprising a representation of an  
output criterion as applied to a data set and to transmit electronic data representing at least one of  
a defined query based at least in part on the at least one signal or the manipulation of the grade of  
the at least one graded representation portion to the server; and  
wherein the server is configured to receive the electronic data from the applet and to send  
a response comprising data representing a plurality of items in dependence on the manipulation  
of the grade of the at least one graded representation portion to the applet for presentation in the  
graphic user interface.